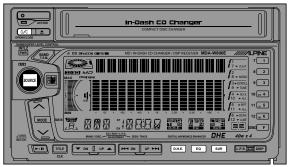


# MDA-W890E

## MD/In-Dash CD Changer/ DSP Receiver

OWNER'S MANUAL (page 2- page 72)
 Please read this manual to maximize your
 enjoyment of the outstanding performance and
 feature capabilities of the equipment, then retain
 the manual for future reference.





## **Precautions**



This label is intended to alert the user to the presence of important operating instructions.

Failure to heed the instructions will result severe injury or death.

**DO NOT DISASSEMBLE OR ALTER.** Doing so may lead to accident, fire or electric shock.

**KEEP SMALL ARTICLES OUT OF THE REACH OF CHILDREN.** If swallowed, consult a physician immediately.

**USE THE CORRECT AMPERE RATING WHEN REPLACING FUSES.** Failure to do so may result in fire or electric shock.

HALT USE IMMEDIATELY IF A PROBLEM APPEARS. When problems occur such as a lack of sound or video, foreign objects inside the unit, smoke coming out, or noxious odors, stop use immediately and contact the dealer where you bought the equipment. Failure to do so may result in an accident or injury.

DO NOT OPERATE THE EQUIPMENT OR LOOK AT THE SCREEN WHILE DRIVING THE VEHICLE. Operating the equipment may distract the driver from looking ahead of the vehicle and cause accident. Always stop the vehicle in a safe location before operating this equipment.

**DO NOT RAISE THE VOLUME EXCESSIVELY.** Keep the volume at a level where you can still hear outside noises while driving. Driving while unable to hear outside noises could be the cause of accident.

DO NOT USE THIS EQUIPMENT FOR PURPOSES OTHER THAN STATED FOR THE VEHICLE. Failure to do so may result in electric shock or injury.

**DO NOT PLACE FOREIGN OBJECTS IN INSERTION SLOTS OR GAPS.** Do not insert hands, fingers or foreign objects in the disc insertion slots. Doing so may result in personal injury or damage to the equipment.

**DO NOT MIX NEW BATTERIES WITH OLD BATTERIES. INSERT WITH THE CORRECT BATTERY POLARITY.** When inserting the batteries, be sure to observe proper polarity (+ and –) as instructed. Rupture or chemical leakage from the battery may cause fire or personal injury.



This label is intended to alert the user to the presence of important operating instructions.

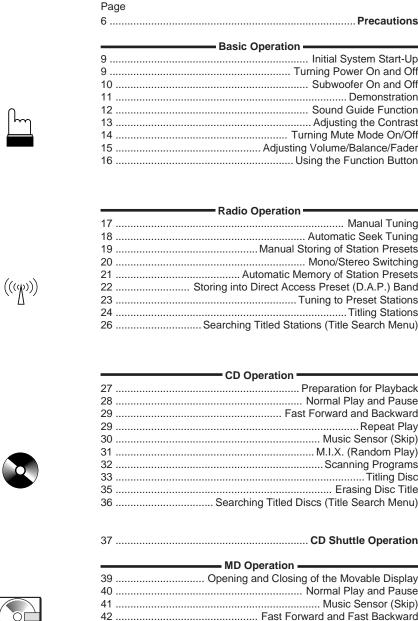
Failure to heed the instructions can result injury or material damage.

**DO NOT BLOCK VENTS OR RADIATOR PANELS.** Blocking them may cause heat to build up inside and may result in fire.

STOP THE VEHICLE IF UNIT OPERATION MIGHT INTERFERE WITH DRIVING.

## Contents

English



42 ......Repeat Play 43 ...... M.I.X. (Random Play) 44 ...... Scanning Programs 45 ...... To Display/Scroll MD Titles



## **Contents**

### Page









	L.P.S. Operation
47	Choosing the Listening Position Selector (L.P.S.)
48	Adjusting L.P.S.

49	——— Surround Operation ——————

51	Equalizer Presets
	Adjusting the Equalizer Settings
53	Memorizing the Equalizer Settings
54	. Recalling the Memorized Equalizer/Surround Settings
54	Switching the Display Modes



Displaying Time Setting Time	
Remote Control	
Disc Care	
In Case of Difficulty	
Specifications	DHE
	Remote Control Disc Care In Case of Difficulty

-Clock Operation -

S

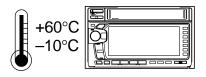
• U S and foreign patents licensed from Dolby Laboratories Licensing Corporation.





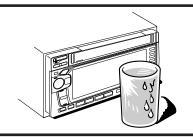


## **Precautions**



### **Thermal Protection Circuit**

Be sure the temperature inside the vehicle is between +60°C (+140°F) and -10°C (+14°F) before attempting to play a disc. If the temperature is over +60°C (+140°F), the protection circuit functions to stop the CD player, and "High-Temp" is displayed.



### **Moisture Condensation**

You may notice the CD playback sound wavering due to condensation. If this happens, remove the disc from the player and wait about an hour for the moisture to evaporate.

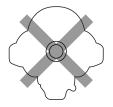


### **Damaged Disc**

Do not attempt to play cracked, warped, or damaged discs. Playing a bad disc could severely damage the playback mechanism.

### Maintenance

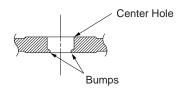
If you have problems, do not attempt to repair the unit yourself. Return it to your Alpine dealer or the nearest Alpine Service Station for servicing.

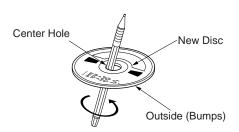


### **Irregular Shaped Discs**

Make sure the discs you use in this unit do not have any irregularities. The outer and inner edges should be round and smooth. Use of irregularly shaped discs may cause damage to the mechanism.

## **Precautions**

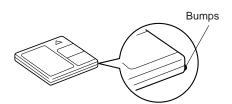




### **New Discs**

#### - CD -

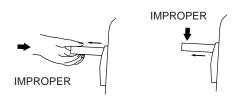
As a protective measure, the CD player will automatically eject discs that have either been inserted incorrectly or have irregular surfaces. If a new disc is ejected immediately after loading, use your finger to feel around the outer edge of the CD and its center hole. If you feel any small bumps or irregularities, this could inhibit proper loading of the disc. To remove the bumps, rub the inside edge of the hole and outside edge of the disc with a ball-point pen or other such instrument, then insert the disc again.



#### - MD -

#### Before inserting an MD

Use your finger to feel around the outer edge of the MD. If you feel any small bumps, remove the bumps before inserting. Inserting an MD with bumps could severely damage the mechanism.



### **Handling Magazine**

When discs are being exchanged in the MDA-W890E, the magazine is pushed out from the changer. While this operation is in progress, do not try to pull out the magazine or stop its movement in any way, as this could cause damage to the mechanism. In addition, be aware of the changer's operation so it will not interfere with your driving. For example, before changing gears, check the position of the magazine so as not to hit it while it is changing discs.

#### CAUTION:

Do not insert anything other than magazine into insertion slot.

## **Precautions**

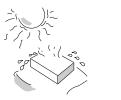
### Using an MD

Check and ensure the following:
Under no circumstances should you open the
MD's shutter and touch the inside of the disc.
Do not expose the MD to direct sunlight. Place
only 1 label in its proper position. Make sure the
MD is clean before inserting into the player.



## **Fuse Replacement**

When replacing the fuse(s), the replacement must be of the same amperage as shown on the fuse holder. If the fuse blows more than once, carefully check all electrical connections for shorted circuitry. Also have your vehicle's voltage regulator checked.







### Installation Location

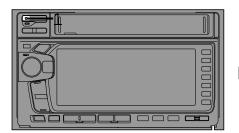
Make sure the MDA-W890E player/receiver will not be exposed to:

- · Direct sun and heat
- High humidity
- Excessive dust
- Excessive vibrations



## **Basic Operation**

English



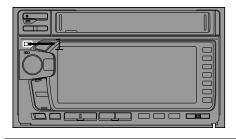
### **Initial System Start-Up**







Immediately after installing or applying power to the unit, it should be initialized. At the upper-left corner of the front panel is a small button. Using a pencil or other pointed object, press this reset button to complete the initialization procedure.



## **Turning Power On and Off**





Press the PWR button to turn on the unit.

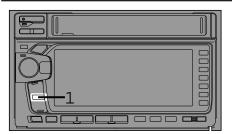
Note: The unit can be turned on by pressing any other button except the eject (h), O/C and CLK buttons.

The volume level gradually increases to the previous level you were listening to before the unit was turned off.

Press the PWR button again to turn off the unit.



# Basic Operation English



### Subwoofer On and Off

This unit is not equipped with a low pass filter. Turn on the Subwoofer Output when an amplifier having the built-in filter is connected to drive your subwoofer.







Press and hold the SUB W. button for at least 3 seconds.

With each press, Subwoofer is toggled On or Off.

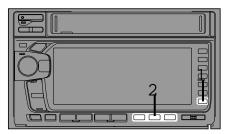
#### Notes:

- Initial mode is "Sub-W OFF."
- Leave the "Sub-W OFF" as long as the Subwoofer output is not being used.
- When the subwoofer is turned on, the subwoofer output level can be adjusted. For more details, refer to the Adjusting Volume/ Balance/Fader section on page 15.



## Basic Operation Eng

English



### **Demonstration**

Equalizer/surround/D.H.E. demonstration functions are provided in this unit.



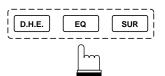
1



Press and hold the DEMO button for at least 2 seconds to activate the DEMO mode. The unit automatically performs the following operations.

- 1 Equalizer scanning operation (set by the manufacturer).
- 2 Surround scanning operation (set by the manufacturer).
- 3 D.H.E. scanning operation.
- 4 Operations 1 3 are carried out repeatedly.

2

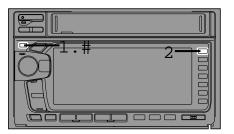


To end the DEMO mode, press one of EQ, SUR, and D.H.E. buttons.



## Basic Operation English

English



### **Sound Guide Function**

This function will give audible feedback with varying tones depending upon the button pressed.





Press and hold the INTLZ button for more than **3** seconds.







Press the Preset \_\_\_ button and the display shows "BEEP ON."

Pressing the button again turns the Sound Guide function off. "BEEP OFF" will be displayed and no tones will be heard.

3



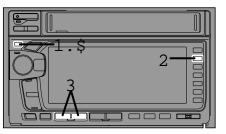
Press the INTLZ button to activate the normal mode.

Note: Two things will remain audible regardless of the BEEP ON or OFF display. The caution beeps for 1) disc change and eject operations of the built-in 3D Shuttle, and 2) the opening and closing of the movable display.



## Basic Operation

English



### **Adjusting the Contrast**

When the dot-matrix display is hard to see, you can adjust the contrast (bright or dark).



1



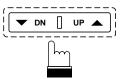
Press and hold the INTLZ button for at least 3 seconds.

2



Press the (preset) button.

3



Press the 9 DN or UP 8 buttons until you clearly see the display. The contrast can be adjusted in 12 steps from –6 to +6.

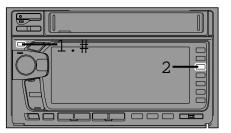
4



After the settings, press the INTLZ button to activate the normal mode.







## **Turning Mute Mode On/Off**

With a cellular phone connected, audio will be interrupted whenever a call is received. This function can be turned ON or OFF from the head unit by following procedure below.



Press and hold the INTLZ button for at least 3 seconds.



MUTE ON **MUTE OFF** 

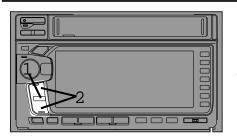
Press the Preset 3 button to select the MUTE ON or OFF mode.



Press the INTLZ button to activate the normal mode.



# **Basic Operation** English

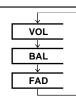


### Adjusting Volume/Balance/Fader



1





Press and release the MODE button repeatedly to choose the desired mode.

#### Notes:

- If the > or < button is not pressed in 5 seconds after selecting the BALANCE and FADER modes, the unit automatically returns to the VOLUME mode.
- With the Subwoofer mode turned on, Subwoofer output level can be adjusted.

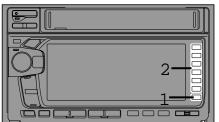
2



Press the button > or < until the desired sound is obtained in each mode.



# **Basic Operation** English



## **Using the Function Button**

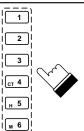
The chart below describes the function of each preset button. The function will change depending upon the source selected and the condition of the FUNCTION switch, ON or OFF.

1



Press the F (FUNCTION) button. The function mode will change each time you press the button. (Refer to the chart below.)

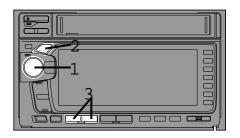
2



Press any one of the 1 - 16 buttons.

Mode	Function Mode	1	2	3	ст 4	н 5	м 6
	OFF	Preset 1	Preset 2	Preset 3	Preset 4	Preset 5	Preset 6
Radio ON		D.A.P. (Direct Access Memory Preset)	MONO (Stereo/Monaural)	TUNE (DX/Local)			A.ME (Automatic Memory)
3D		Disc Select 1	Disc Select 2	Disc Select 3	M.I.X. (Random Play)	RPT (Repeat)	SCAN
MD				SCROLL	M.I.X. (Random Play)	RPT (Repeat)	SCAN
6.00	OFF	Disc Select 1	Disc Select 2	Disc Select 3	Disc Select 4	Disc Select 5	Disc Select 6
6-CD Changer	ON				M.I.X. (Random Play)	RPT (Repeat)	SCAN
	OFF	Disc Select 1	Disc Select 2	Disc Select 3	Disc Select 4	Disc Select 5	Disc Select 6
12-CD Changer	ON 1	Disc Select 7	Disc Select 8	Disc Select 9	Disc Select 10	Disc Select 11	Disc Select 12
	ON 2				M.I.X. (Random Play)	RPT (Repeat)	SCAN



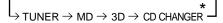


## **Manual Tuning**





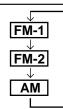
Press the SOURCE button to select the radio mode.



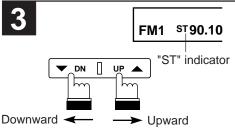
(\* Only with the CD shuttle connected.)

2





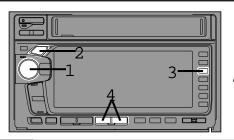
Press the BAND button repeatedly until the desired radio band is displayed.



Press the  $_{9}\,$  DN or UP  $_{8}\,$  button to move downward or upward one step respectively until the desired station frequency is displayed.

"ST" indicator Note: The "ST" indicator in the display shows that a stereo broadcast is being received.





## **Automatic Seek Tuning**

1

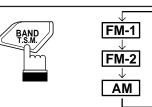


Press the SOURCE button to select the mode.

 $^*$  TUNER ightarrow MD ightarrow 3D ightarrow CD CHANGER  $^*$ 

(\* Only with the CD shuttle connected.)

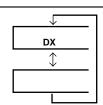
2



Press the BAND button repeatedly until the desired radio band is displayed.

3



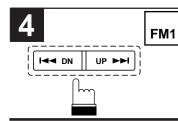


90.10

When the Function mode is ON\*, press the (TUNE) button to illuminate the DX indicator in the display. With the DX mode activated, both strong and weak stations will be tuned automatically.

Press again to return to the local mode. The DX indicator will turn off and only strong stations will be tuned.

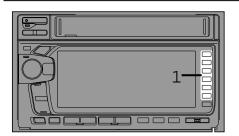
\* Refer to "Using the Function button" on page 16



Press the c DN or UP f button to automatically seek a station downward or upward respectively.

The unit will stop at the next station it finds. Press the same button again to seek next station.

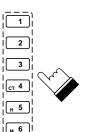




### Manual Storing of Station Presets



1



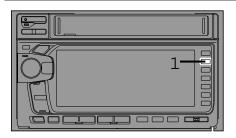
- 1. Tune in the desired radio station you wish to store in the preset memory.
- Press and hold any one of the preset buttons (1 through 6) for at least 2 seconds. The frequency display will begin to blink.
- Press the preset button into which you wish to store the station while the display is blinking (within 5 seconds).
   The display stops blinking once the station has been memorized. The display shows the band, preset No. and the station frequency memorized.
- Repeat the procedure to store 5 other stations onto the same band.
   To use this procedure for other bands, simply select the band desired and follow steps 1 – 3 above.

A total of 24 stations can be stored in the preset memory (6 stations for each band; FM1, FM2, AM and D.A.P.).

#### Notes:

- "Preset memory" works when the function mode is OFF.
   Refer to "Using the Function button" on page
- If you store a station in a preset memory which already has a station, the current station will be cleared and replaced with the new station.

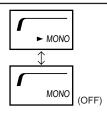




### Mono/Stereo Switching





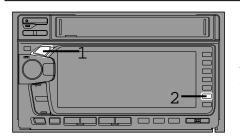


"ST" indicator appears when a stereo station is tuned in.

When the Function mode is ON\*, press the 2 (MONO) button to switch from stereo to monaural FM reception. This will help in reducing the noise of weak FM Stereo broadcasts. In the monaural mode, the "ST" indicator turns off. Press the 2 (MONO) button again to return to the stereo mode.

\* Refer to "Using the Function button" on page 16.



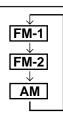


### Automatic Memory of Station Presets



1





Press the BAND button repeatedly until the desired radio band is displayed.

2



When the Function mode is ON\*, press the [16] (A. ME) button. The frequency on the display continues to change while the automatic memory is in progress.

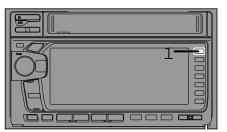
The tuner will automatically seek and store 6 strong stations in the selected band in order of signal strength.

When the automatic memory has been completed, the tuner goes to the station stored in the preset location No. 1.

 Refer to "Using the Function button" on page 16.

Note: If no stations are stored, the tuner will return to the original station you were listening to before the auto memory procedure began.





# Storing into Direct Access Preset (D.A.P.) Band

A combination of radio stations from any band, AM and FM (up to 6 stations) can be manually preset onto the D.A.P. band.

1





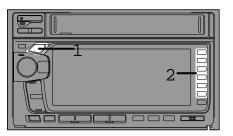
When the Function mode is ON\*, press the 1 (D.A.P.) button to activate the D.A.P. mode.

 Refer to "Using the Function button" on page 16.

Press the BAND button to select FM or AM. The selected band will be displayed. To memorize stations onto the D.A.P. band, follow the steps for the automatic or Manual Storing of Station Presets section above.

To cancel the D.A.P. mode, press the (D.A.P.) button.





## **Tuning to Preset Stations**



1

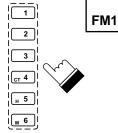




Press the BAND button repeatedly until the desired band is displayed.

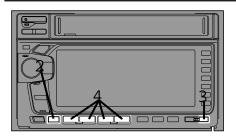


2



90.10 Press the station preset button ( ithrough we) that has your desired radio station in memory. The display shows the band, preset number and frequency of the station selected.

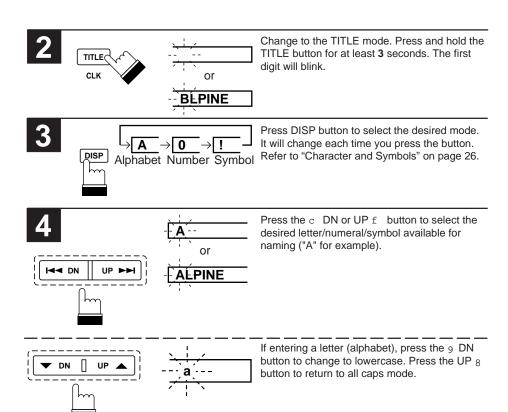




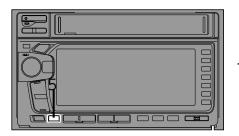
### **Titling Stations**

1

Tune in a station to be titled.







### Titling Stations (Continued)



5





Press the TITLE button to store the first character. The first character will stop blinking and the display will automatically advance to the next character. When that character begins to blink, you may choose the next letter or symbol of your title.

6

Repeat the steps 3-5 above to complete the titling. All 10 character positions should be filled. Use spaces where characters are not needed (for example at the end of a 5 character title, use 5 spaces to complete the title).

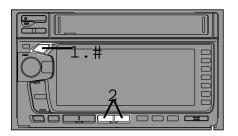
7

After the last character has been entered (character number 10), the title will automatically be stored.

#### Notes:

- You can not enter a title on clock mode. Refer to "Displaying Time".
- When you want to erase a title, enter the "symbol into all spaces. When the title memory is used up, the display shows "Full Data." Storing new station titles after the "Full Data" message has been displayed, causes previously stored titles to be erased. The new station titles will replace the old titles beginning with the first one created.
- A total of 18 titles for AM and FM stations may be entered.
- When the title is not entered, "TUNER" will be displayed.





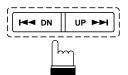
# Searching Titled Stations (Title Search Menu)

1



Press and hold the T.S.M. button for at least **2** seconds while the station title is displayed. The titled station in memory blinks in the display.

2



Press the c DN or UP f button to select the desired station title.

3



Press the T.S.M. button to play the selected station.

The unit will automatically search the station and will play that station.

#### **Characters and Symbols**

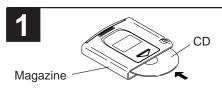
A (a)	B (b)	C (c)	D (d)	E (e)	F (f)	G (g)	H (h)	l (i)	J (j)
K (k)	L (I)	M (m)	N (n)	O (o)	P (p)	Q (q)	R (r)	S (s)	T (t)
U (u)	V (v)	W (w)	X (x)	Y (y)	Z (z)	0	1	2	3
4	5	6	7	8	9	!	"	#	\$
%	&	,	(	)	*	+	,	-	
/	:	;	<	=	>	?	0	Г	ı

Blank

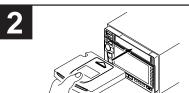


English

### **Preparation for Playback**



Insert your discs (up to 3) into the disc slots of the CD magazine with the label side facing up.



Insert the CD magazine all the way into the MDA-W890E with the arrow pointing toward the unit as shown here.



3



To remove discs from the CD magazine, first find the lever corresponding to the CD you would like to remove. Push the lever away from the magazine. The disc will come halfway out from the CD magazine. Carefully grasp the edge of the disc as shown and remove.

Note: Hold the disc so you will not leave fingerprints on the disc surface (refer to "Disc Care" section).

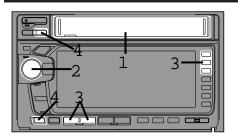
#### Notes:

- Do not insert heat-deformed discs into the CD magazine.
- 2. Do not forcibly remove the CD magazine by hand.
- Only one disc can be inserted in each housing slot. Attempting to insert another disc may cause damage.
- 4. Only compact discs containing the mark shown can be used.
- 5. 3-inch (8cm) CD's cannot be used.





English



### Normal Play and Pause

1



Insert the magazine all the way as instructed on top of the magazine.

2



Press the SOURCE button repeatedly to select the 3D mode.

 $^{ullet}$   $\rightarrow$  TUNER ightarrow MD ightarrow 3D ightarrow CD CHANGER **-**

or

(\* Only with the CD shuttle connected.)

3



Press one of the preset number buttons (1-3) to select a disc set in the magazine. The disc can also be selected with the disc select switch.

The selected disc number is displayed and the playback starts.

The preset number switches 1 - 3 are corresponding to the disc No. 1 - 3.

4



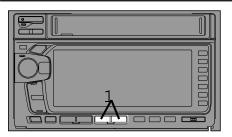
Press the button to pause the CD play. To resume playback, press the button again.



Press the eject (h) button to eject the magazine.

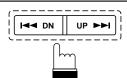


English



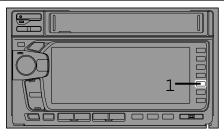
### Fast Forward and Backward





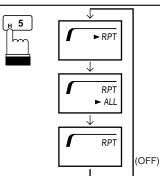
Press and hold the  $\, c \,$  DN or UP  $\, f \,$  button to quickly move backward or forward until you reach the desired section of the track.





## **Repeat Play**





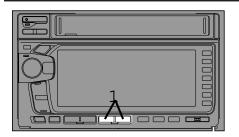
Press the L.S (RPT) button to play back repeatedly the track being played. The unit enters the Repeat mode and the track will be played repeatedly.

Press the [15] (RPT) button again to deactivate the repeat play.

Note: If the RPT ALL mode is selected, the unit repeatedly plays back all tracks on the disc selected.



English



### Music Sensor (Skip)





Momentarily press the  $\mbox{c}$  DN button once to return to the beginning of the current track. If you wish to access a track further back, repeatedly press until you reach the desired track.

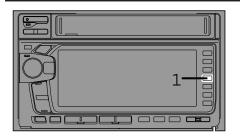


T04 ↓ T05 Press the UP f button once to advance to the beginning of the next track. If you wish to access a track further ahead, press repeatedly until the desired track is reached. (The example shows the Music Sensor operation starting from track No. 4.)

**Note:** The music sensor feature is functional in the play or pause mode.



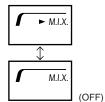




### M.I.X. (Random Play)

1





Press the [4] (M.I.X.) button in the play or pause mode. The unit enters the M.I.X. mode and the tracks on the disc will be played back in a random sequence. After all the tracks on the disc have been played back once, the player will load the next disc and begin a new random sequence until the M.I.X. mode is canceled.

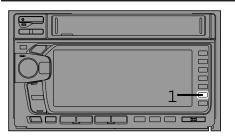


To cancel M.I.X. play, press the  $_{\mbox{\tiny cr}}$  (M.I.X.) button again.

Note: If a CD Shuttle equipped with the ALL M.I.X. function is connected, ALL M.I.X. will also be selectable. In this mode, the tracks on all the CD's in the current magazine will be included in the random playback sequence.



English



## **Scanning Programs**

1





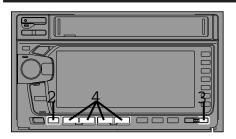
SCAN

Press the ue (SCAN) button to activate the Scan mode. The first 10 seconds of each track will be played back in succession.

To stop the Scan, press the  $\[ \]$  (SCAN) button to deactivate the Scan mode.



English

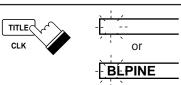


## **Titling Disc**

1

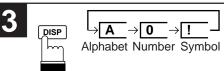
Select a disc for which you want to enter a title.





Change to the TITLE mode. Press and hold the TITLE button for at least 3 seconds. The first digit will blink.

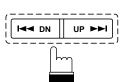




Press the DISP button to select the desired mode.

The mode will change each time you press the button. Refer to "Characters and Symbols" on page 36.

4



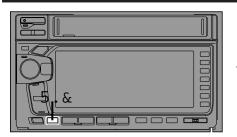
Press the c DN or UP f button to select the desired letter/numeral/symbol available for naming ("A" for example).



If entering a letter (alphabet), press the 9 DN button to change to lowercase. Press the UP 8 button to return to all caps mode.



English



### Titling Disc (Continued)







Press the TITLE button to store the first character. The first character will stop blinking and the display will automatically advance to the next character. When that character begins to blink, you may choose the next letter or symbol of your title.

6

Repeat the steps 3-5 above to complete the titling. Pressing the TITLE button after entering the 12th character, automatically stores the title into memory.

In case of storing a title of less than 12 characters:

For example, after 3rd digit character is completed, 4th digit character is blinking. Then, go to step 7.

7



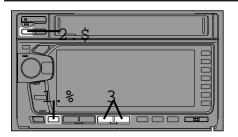
Press and hold the TITLE button for at least 3 seconds to record the title.

#### Notes:

- You can not enter a title in clock mode. For the clock display, refer to "Displaying Time", on page 56.
- When the title is not entered, "3DISC" or "CD CHANGER" will be displayed.
- When the display shows "Full Data", the memory is full and no input is accepted. In order to input new titles, old titles must be deleted first. Refer to the section "Erasing Disc Title" on page 35 to delete titles.
- The 3D Shuttle can memorize up to 18 CD titles maximum.
- The CD Shuttle title length or memory capacity depends upon the model being used.
- In the case of the 3D Shuttle, the memorized titles will be erased if the battery power lead is disconnected, keep this in mind when touching power cables.



English



### **Erasing Disc Title**

1



When it is not in clock mode, press the TITLE button to select the disc titling mode. Then, press and hold for at least 3 seconds.

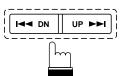


2



Press and hold the O/C button for at least 3 seconds to activate the title scanning mode. The title in the display will blink, for example "ALPINE".

3



Press the  $\, {\rm c} \,$  DN or UP  $\, {\rm f} \,$  button repeatedly until the disc title you want to erase is displayed.

4



Press and hold the O/C button for at least 3 seconds to erase the disc title displayed.

5

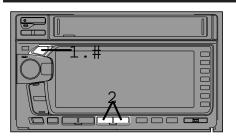


Press and hold the TITLE button for at least 3 seconds to cancel the disc title erasing mode.

**Note:** You can not erase a title when the clock displays. For the clock display, refer to "Displaying Time" on page 56.



English



# Searching Titled Discs (Title Search Menu)

1

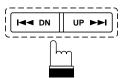




Press the T.S.M. button while the title is displayed.

The title in memory blinks in the display.

2



Press the  ${\tt c}$  DN or UP  ${\tt f}$  button to select the desired disc title.

3



Press the T.S.M. button to play the selected disc

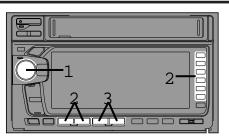
The unit will automatically search the disc and will play that disc.

#### **Characters and Symbols**

A (a)	B (b)	C (c)	D (d)	E (e)	F (f)	G (g)	H (h)	l (i)	J (j)
K (k)	L (I)	M (m)	N (n)	O (o)	P (p)	Q (q)	R (r)	S (s)	T (t)
U (u)	V (v)	W (w)	X (x)	Y (y)	Z (z)	0	1	2	3
4	5	6	7	8	9	!	"	#	\$
%	&	,	(	)	*	+	,	-	
/	•	;	<	=	>	?	0	Г	J

Blank

# CD Shuttle Operation English



# Operation of 6-Disc Shuttle (Option)

If an Ai-NET applicable CD Shuttle made by ALPINE is connected, this unit can operate the CD Shuttle.

1

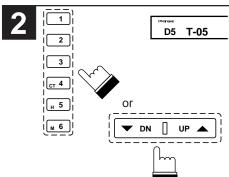


Press the SOURCE button to activate the CD Shuttle mode.

The mode will change each time the button is pressed.

 $^{ ext{+}}$  TUNER ightarrow MD ightarrow 3D ightarrow CD CHANGER  $ext{-}$ 

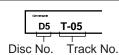
(\* Only with the CD Shuttle connected)



Press one of the buttons 1 - 6 to select a disc set in the CD Shuttle. The disc can also be selected with the disc select switch.

The disc No. selected is displayed.

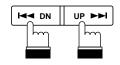
3



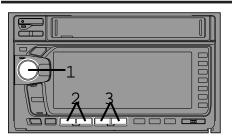
Press the  $\, {\tt c} \,$  DN or UP  $\, {\tt f} \,$  button lightly to specify a music number (track number). The playback will begin.

#### Notes:

- The CD Shuttle can be operated in the same way as this unit using function button. (Refer to "Using the Function Button" on page 16.)
- The preset switch numbers 1 w6 are corresponding to the disc No. 1 6.



# CD Shuttle Operation English



# Operation of 12-Disc CD Shuttle (Option)

If an Ai-NET applicable CD Shuttle made by ALPINE is connected, this unit can operate the CD Shuttle.

1

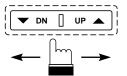


Press the SOURCE button to activate the CD Shuttle mode.

The mode will change each time the button is pressed.

(\* Only with the CD Shuttle connected.)

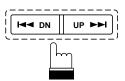
2



Press the Disc Select button to select a disc in the CD Shuttle. The disc No. selected is displayed. The disc can be selected directly if you use the function button. (Refer to page 16.)

Disc No. 1 ←→ 2 ←··· 6 ←·· 11 ←→ 12

3



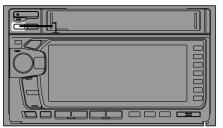
Press and release the  ${\tt c}\;\;{\tt DN}$  or UP  ${\tt f}\;\;{\tt button}$  to skip to a specific track number.

**Note:** Using the Function button, the attached CD Shuttle can be operated in the same way as the 3D source.

(Refer to "Using the Function Button" on page 16.)



English



# Opening and Closing of the Movable Display



Press the O/C button.

The movable display opens.

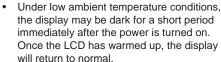
To close the movable display, press the O/C button again.

The movable display closes.



 When the movable display is opened, do not place any object on the display and be careful not to bump or apply any pressure to the door while it is open. This can cause damage to the mechanism.



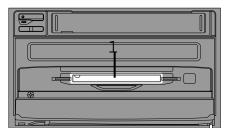


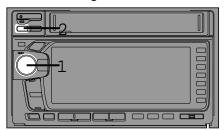


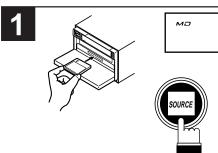


English

## Normal Play and Pause







Open the movable display and insert an MD. The movable display automatically closes and the playback starts.

When an MD is already inserted, press the SOURCE button to set the mode to MD. The mode will change each time the button is pressed.

**Note:** Insert the MD in the direction the arrow indicates with the label facing up.

 $\star$  TUNER o MD o 3D o CD CHANGER extstyle o

(\* Only with the CD shuttle connected.)

2



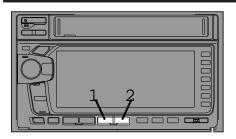
Press the O/C button to stop the MD playback. The movable display opens and the MD ejects.

#### Notes:

- Make sure the MD is fully inserted into the mechanism before pressing the O/C button to close the movable display.
- Remove any dust or debris before inserting.
- Do not use MDs labels peeling or covering the shutter.
- Do not use MD with over sealed label or half way peeled off label.
- Do not insert the MD while the power is OFF. Inserting forcibly could severely damage the mechanism.



English



## Music Sensor (Skip)

1



Momentarily press the c DN button once to return to the beginning of the current track. If you wish to access a track further back, repeatedly press until you reach the desired track.

2



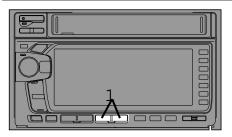


Press the UP f button once to advance to the beginning of the next track. If you wish to access a track ahead, press repeatedly until the desired track is reached.

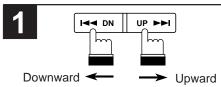




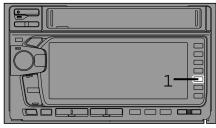
English



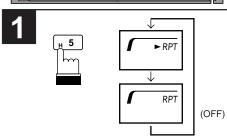
# Fast Forward and Fast Backward



Press and hold the c DN or UP f button to quickly move backward or forward until you reach the desired section of the track.



# **Repeat Play**

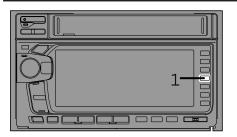


Press the [15] (RPT) button to play back repeatedly the track being played.

Press the  $\[\]^{\]}$  (RPT) button again to deactivate the repeat play.



English



## M.I.X. (Random Play)

1





(OFF)

Press the  $\blacksquare 1$  (M.I.X.) button. The unit enters the M.I.X. mode and the tracks on the MD will be played back in a random sequence.

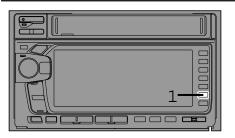
To deactivate, press the M.I.X. button again.

**Note:** After all the tracks on the MD have been played back once, the player begin a new random sequence.



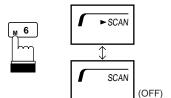


English



## **Scanning Programs**

1

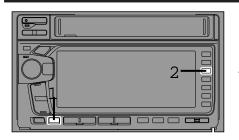


Press the 🗓 (SCAN) button to activate the scan mode. The first 10 seconds of each track will be played back in succession.

Press the [s] (SCAN) button to deactivate the SCAN mode. The track will be played normally.



English



## To Display/Scroll MD titles

Press the TITLE button during play back of MD. The display will change each time you press the

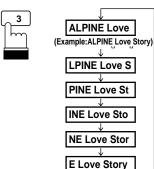




button.

MD TITLE - TRACK NAME - CLOCK/TRACK NAME - CLOCK/MD TITLE

2



If the MD title or track name is longer than 12 characters, press the 3 (SCROLL) button. It will display the entire title by scrolling 1 character at a time to the left in the display. After displaying the last character for 3 seconds, the display return to normal mode.



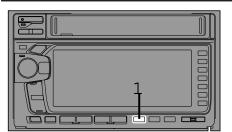
To deactivate the scroll mode during scrolling, press the SCROLL button again.

#### Notes:

- The MDA-W890E may not display every title properly, depending on the unit used to record/enter the title.
- If no MD title nor track name has been entered, "MINIDISC" will be displayed.
- Titles can be set to scroll automatically.

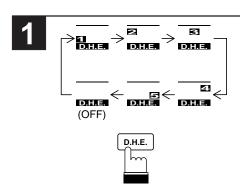
# DHE

## English D.H.E. Operation



## Selecting D.H.E. Mode

Using digital signal processing technology, D.H.E. (Digital Harmonics Enhancer) operates on harmonic components which determine tone and coloration of the musical instruments. The process operates independently on individual frequency bands, so each instrument or vocal will be distinct. Play back clarity is enhanced to compensate for road noises which would normally detract from the listener's enjoyment.



Press the D.H.E. button until the desired mode will be displayed.

With each press, the mode will change D.H.E. 1, D.H.E. 2, D.H.E. 3, D.H.E. 4, D.H.E. 5, OFF.

#### Notes when setting D.H.E./Surround/ Equalizer

- The mode currently set is displayed by pressing the D.H.E./SUR/EQ button once. Then, the effect is changed by each successive press (within 5 seconds).
- While making this adjustment, other operations will not be accepted.
- When turning the unit power on for the first time after resetting, each mode is set to default.

Beat MAX (D.H.E.1)

Lyric MAX (D.H.E.2)

Beat MIX (D.H.E.3)

Bass rhythm emphasized. Female vocals stand out.

Good, overall balance.

Lyric MIX (D.H.E.4)

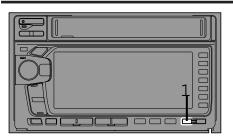
The female vocal will be clearly reproduced inside of the car.

Phase MIX (D.H.E.5)

A good balance is available for any genre.



# L.P.S. Operation English



# Choosing the Listening Position Selector (L.P.S.)

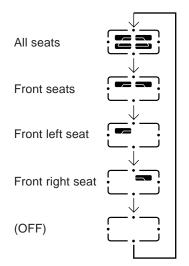
This feature gives the user the ability to adjust the time delay of the 4 main speakers to provide the ideal sound stage for each listener in the car. The staging can be optimized for the front passenger, driver, front passenger and driver, or front and rear passengers and driver.

1



Press the L.P.S. button repeatedly to select the desired listening position.

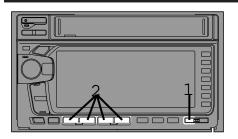
The L.P.S. indicator shows the seat position.





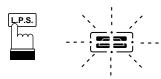


# L.P.S. Operation English



# Adjusting L.P.S

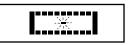




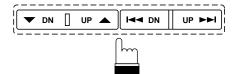
Press the L.P.S. button repeatedly to select the L.P.S. mode you want to adjust.

The L.P.S. indicator will blink for 5 seconds.

2



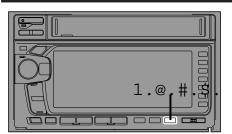
While the L.P.S. indicator is blinking, press the up/down (UP  $_8$ ,  $_9$  DN) and left/right ( $_{\rm C}$  DN, UP  $_{\rm E}$ ) buttons, to fine tune the time correction for the selected position.





# Surround Operation

English



## **DSP Surround Presets**

The MDA-W890E employs DSP (Digital Signal Processing) to duplicate mathematically various listening environments. Six typical surround settings are provided for a variety of musical source material as follows.

1





#### **NORMAL (Flat)**

Press the SUR (SURROUND) button to select the Surround OFF (Flat) mode.

2





#### **STADIUM**

Press the SUR button to select the mode which duplicates the acoustics of a large outdoor stadium.

3





#### LIVE

Press the SUR button to select the mode which duplicates the acoustics of a small, intimate concert hall with few reflections.

4





#### DANCE

Press the SUR button to select the mode which duplicates the acoustics of a dance hall with moderate reflections.

5





#### CHURCH

Press the SUR button to select the mode which duplicates the acoustics of a large cathedral with high ceilings and many reflections.



6





#### HALL

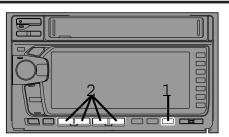
Press the SUR button to select the mode which duplicates the acoustics of a large concert hall with limited reflections.

**Note:** The display shown on the left will be different from the actual display.



## Surround Operation

English



# Adjusting the Surround Settings

You can adjust the Surround settings for your preference.

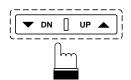




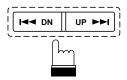


Press the SUR button repeatedly to select the desired surround mode (except NORMAL).

2



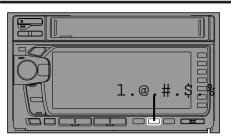
Within 5 second after the step 1 , press the 9 DN or UP  $_8$  button to decrease or increase the reverberation level. Adjustments can be made within a range of +4 to -4 steps.



Press the c DN or UP f button to adjust the initial reverberation time. Adjustments can be made within a range of +4 to -4 steps.



English

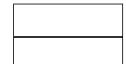


## **Equalizer Presets**

Six typical equalizer settings are preset at the factory for a variety of musical source material.

1





#### Setting 1: FLAT

Press the EQ (EQUALIZER) button to select the flat frequency response.

2





#### Setting 2: MALE (VOCAL)

Press the EQ button to select the MALE setting.

3





#### Setting 3: FEMALE (VOCAL)

Press the EQ button to select the FEMALE setting.

4



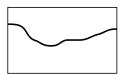


#### Setting 4: POPS

Press the EQ button to select the POPS setting.

5



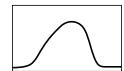


#### Setting 5: ROCK

Press the EQ button to select the ROCK setting.

6





#### Setting 6: NEWS

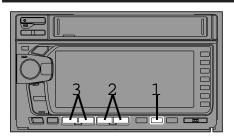
Press the EQ button to select the NEWS setting.

**Note:** The display shown on the left will be different from the actual display.





English



# Adjusting the Equalizer Settings

You can modify the Equalizer settings to create a response curve more appealing to your personal taste.

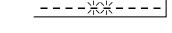
1



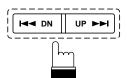
Press the EQ (EQUALIZER) button repeatedly to select the Equalizer setting preset which you wish to adjust.

The example shows FLAT mode.

2

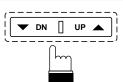


EQ



Within 5 seconds after the operation of 1  $\,$  , press the EQ BAND DN (c  $\,$  DN) or UP (UP  ${\rm f}\,$  ) button to select the frequency band to adjust. The BAND indicator of the selected frequency will blink.

3

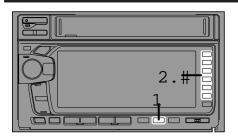


Press the LEVEL DN (9 DN) or LEVEL UP (UP 8) button while the frequency range is blinking to decrease or increase the level respectively. Repeat Steps 2 and 3 to adjust other frequency ranges.

To adjust other Equalizer settings, repeat Steps 1 to 3.



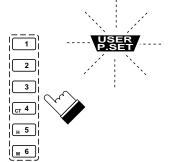
English



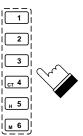
## Memorizing the **Equalizer Settings**



Press the EQ button to select the desired equalizer setting (factory preset or your own) you wish to store in memory.



Within 5 seconds after operating step 1, press and hold any one of the Preset buttons (1 -(a 6) for at least 2 seconds. The indicators blink for 5 seconds showing the unit is ready for storing.



While the indicators are blinking, press the Preset button (1 - 6) into which you wish to store the selected equalization setting. Repeat Steps 1 to 3 to store other settings.

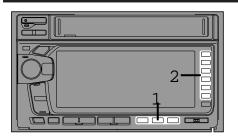
The example shows the setting has been stored at the Preset 2.

Note: You can store the D.H.E. and Surround settings as well as the Equalizer settings in the Presets.



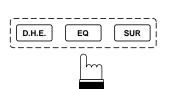


English



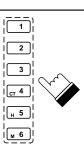
## Recalling the Memorized Equalizer/Surround Settings

1



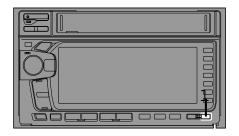
Press the desired mode button, EQ, SUR or D  $\rm H~F$ 

2





To recall your preset, pressing one of the preset switches (1 - 1) within 5 seconds after the operation in Section 1. This provides sound characteristics of your own design.



# Switching the Display Modes

1



Press the DISP (DISPLAY) button to select the desired Display pattern mode.

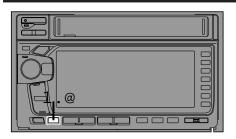
Each press changes the display patterns as shown in page 55.



English

Pattern	Display	Description
1	DISP- (	EQ Pattern
	- 63 • 160 • 460 • 16 • 228 • 636 • 160 •	
2		Spectrum Analizer Pattern
3	_====	Peak Hold Pattern
4		Peak Value Increasing Pattern
	0 10 400 1 1 255 1 535 1	
5	BISP-5   =_= = = ==_	"i" Character Pattern
6	## JISP-6	Block Pattern
	. 63 · 160 · 160 · 16 · 16 · 16 · 16 · 16 ·	
7	DISP-0 _==== =====	Mirror Pattern
	. 43 · 45 · 45 · 18 · 23K · 61K · 186 ·	
8	DISP-8	Spectrum Dual Stack Pattern
9		Scan Display (Repeats from DISP2 to DISP8 for every 5 seconds endlessly.)
10	CD MD RADIO	Operation Mode Display Displays each mode of operation.

# Clock Operation English



## **Displaying Time**

1

12:00

TITLE

Press CLK (Clock) button.

The mode changes each time you press the button.

Select the clock displaying mode.

#### Notes:

- The clock will be displayed by pressing the CLK button even if the power is turned off with the ignition ON.
- When using this unit with the engine off, the battery may discharge over time. This could be enough to prevent the engine from starting (The discharge time depends upon the number of components in your system).

2

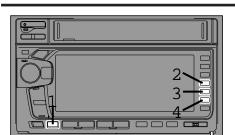


Press CLK (Clock) button.

The mode changes each time you press the button.

Turn off the clock display.

# Clock Operation English



## **Setting Time**

1





Make sure you are in the Clock mode by pressing the Clock button (see page 56). Then, press and hold the CLK (Clock) button for at least 3 seconds. The time indication will begin to blink.

2





To set the time to the nearest hour, press the CT button while the time indication is blinking. For example, if the time shown in the display is 9:35, the CT function will change it to 10:00. If the display shows 9:29, the CT function will set the time to 9:00.

3





Example: To adjust to 9:35

Press the "H" button to adjust the hours while the time indication is blinking.

4



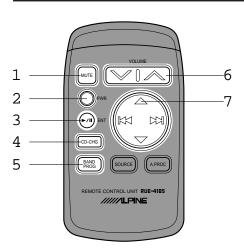


Press the "M" button to adjust the minutes while the time indication is blinking.

The time automatically sets after 5 seconds of inactivity. It can be manually set by pressing the CLK button immediately after making adjustments. The time display stops blinking when set.

## Remote Control

English



#### Controls

#### 1 Mute Button

Press the button to lower the volume by 20 dB instantly. Press the button again to cancel.

#### 2 Power Switch

Press the switch to turn the power on/off.

#### 3 k Button

Press the button to switch between the Play and Pause modes for the MD player or CD.

#### 4 CD Changer Button

Press the button to change to the CD changer operation.

#### 5 Band/Program Button Radio mode: BAND Button

#### **6 Volume Adjustment Buttons**

To increase the volume level.....

Press the / button

To decrease the volume level.....

Press the W button

#### 7 A Button

**Radio mode:** Pressing the button will select, in ascending order, stations programmed into the radio's presets as shown below.

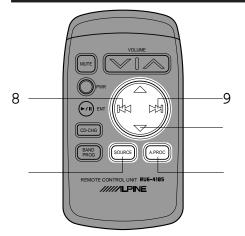
$$\rightarrow$$
1  $\rightarrow$ 2  $\cdots$ 6  $\neg$ 

# 3D/CD Shuttle mode: DISC Select (UP) Button

Press the button to select a disc in ascending order.

**Equalizer/Surround mode:** After calling each mode with the A. PROC button, press the **b** button to select each mode.

## Remote Control



Button
Radio mode: SEEK (DN) Button
3D/MD/CD Shuttle mode: Press the
button to go back to the beginning of the
current track.

9 M Button Radio mode: SEEK (UP) Button 3D/MD/CD Shuttle mode: Press the button to advance to the beginning of the next track.

#### **▼** Button

Radio mode: Pressing the button will select, in descending order, stations programmed into the radio's presets as shown below.

# 3D/CD Shuttle mode: DISC Select (DN) Button

Press the button to select a disc in descending order.

**Equalizer/Surround mode:** After calling each mode with the A. PROC button, press the ▼ button to select each mode.

#### **Audio Processor Button**

Press the button to switch between the Equalizer/Surround modes.

#### **Audio Select Button**

Press to select the audio source.

# **Remote Control**

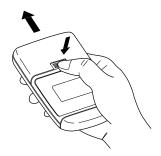
English

## **Battery Replacement**

Applicable battery: Use two "AAA" sized dry batteries or equivalent.

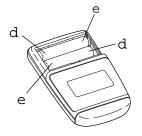
### Opening the battery cover

Slide out the battery cover while firmly pressing outward.



## Replacing the battery

Put the batteries in the case as illustrated.



#### Closing the cover

Push the cover as illustrated until a click is heard.



## Disc Care

# CORRECT



## **Correct Handling**

Do not drop the disc while handling. Hold the disc so you will not leave fingerprints on the surface. Do not affix tape, paper, or gummed labels on the disc. Do not write on the disc.









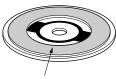


## **Disc Cleaning**

Fingerprints, dust, or soil on the surface of the disc could cause the CD player to skip. For routine cleaning, wipe the playing surface with a clean, soft cloth from the centre of the disc to the outer edge. If the surface is heavily soiled, dampen a clean soft cloth in a solution of mild neutral detergent before cleaning the disc.



Transparent Sheet

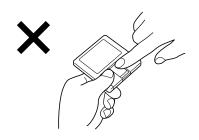


Disc Stabilizer

## Disc Accessories

There are various accessories available on the market for protecting the disc surface and improving sound quality. However, most of them will influence the thickness and/or diameter of the disc. Using such accessories can cause the disc to be out of standard specifications and may create operational problems. We recommend not using these accessories on discs played in Alpine CD players.

## Disc Care



### What is an MD

The small, compact cartridge containing a 64mm diameter disc is very easy to handle. The signals on the disc are digital and are read without touching the disc, so the quality of the sound remains unchanged upon playback (unlike cassette).

It uses a recording method called ATRAC (Adaptive TRansform Acoustic Coding). This is a compression technique used to reduce the music data to 1/5 of its original size. This compression is such that the quality of the sound approaches that of a Compact Disc.

#### Handling

The MD is enclosed in a plastic cartridge. If can be handled without worrying about dust or fingerprints. However, dust can still enter from the small gaps in the case or mishandling the MD could damage the unit.

Please follow the instructions below when using the MD.

- Do not open the shutter.
- · Do not touch the disc inside cartridge.
- Wipe off any dust or debris on the cartridge.
   Pay special attention to the spindle side of the MD.
- · Do not expose to direct sun light.
- Do not expose to a location where sand or dust could enter.
- Make sure labels are properly positioned.
- Use only 1 label per MD.
- Do not use an MD with its label peeling off.
- · Store in its case when not in use.

If you encounter a problem, please review the items in the following check list. This guide will help you isolate the problem if the unit is at fault. Otherwise, make sure the rest of your system is properly connected or consult your authorized Alpine dealer.

 Check the fuses on the Battery leads; replace with the proper value if

## Initial Turn-on After Installation

# Symptom Cause and Solution Car's ignition is off. If connected per instructions, the unit will not operate with the car's ignition off. Improper connection of power leads. Check connections of the power leads.

Blown fuse.

necessary.

Rad	io Mode
Symptom	Cause and Solution
Unable to receive stations.	<ul> <li>No antenna or open connection in cable.</li> <li>Make sure the antenna is properly connected; replace the antenna or cable if necessary.</li> </ul>
Unable to tune stations in the seek mode.	<ul> <li>You are in a weak signal area. <ul> <li>Make sure the tuner is in the DX mode.</li> </ul> </li> <li>If the area you are in is not known to be a weak signal area, the antenna may not be grounded and connected properly. <ul> <li>Check your antenna connections; make sure the antenna is properly grounded at its mounting location.</li> </ul> </li> <li>The antenna may not be the proper length. <ul> <li>Make sure the antenna is fully extended; if broken, replace the antenna with a new one.</li> </ul> </li> </ul>
Broadcast is noisy.	<ul> <li>The antenna is not the proper length.</li> <li>Extend the antenna fully; replace it if it is broken.</li> <li>The antenna is poorly grounded.</li> <li>Make sure the antenna is grounded properly at its mounting location.</li> </ul>

## **CD Mode** Symptom **Cause and Solution** Out of operating temperature range +50°C CD not functioning. (+120°F) for CD. Allow the car's interior (or trunk) temperature to cool. CD playback sound is wavering. Moisture condensation in the CD Module. Allow enough time for the condensation to evaporate (about 1 hour). Unable to Fast-Forward or Backward. The CD has been damaged. - Eject the CD and discard; using a damaged CD in your unit can cause damage to the transport. Sound skips due to vibration. Improper mounting. Securely re-mount the unit. Disc is very dirty. Clean the disc. · Disc has scratches. - Change the disc.

Dirty or scratched disc.

replaced.

- Clean the disc: damaged discs should be

Sound skips without vibration.

	MD Mode
Symptom	Cause and Solution
The MD could not be inserted.	<ul> <li>Another MD is already inserted.</li> <li>– Eject the inserted MD and insert the MD.</li> <li>The MD is inserted incorrectly.</li> <li>– Insert the MD correctly.</li> </ul>
Sound skips due to vibration.	Improper mounting.     Securely re-mount the unit.
Sound skips without vibration.	<ul> <li>Dirty or scratched MD. Bad recording condition.</li> <li>Change the MD.</li> </ul>
The play back won't start.	<ul> <li>Dirty or scratched MD. Bad recording. condition. A non-recorded MD.</li> <li>Change the MD.</li> <li>Dew condensation.</li> <li>Wait for a while before using.</li> </ul>

Indication for	3D Head Unit
Indication	Cause and Solution
High-Temp	Protective circuit is activated due to high temperature.     The indicator will disappear when the temperature returns to within operation range.
NO DISC	No disc is loaded.     Select a disc.
No Magazine	No magazine is loaded.     Insert a magazine.
ERROR	Malfunction in the unit.     Press the eject button and remove the CD from the CD magazine. Inspect the CD for any deformities or irregularities (see pages 6 – 7). If there appears to be no problems with the disc, insert the CD back into the magazine. When the "ERROR" indication disappears from the display, insert the magazine into the unit. If the magazine does not eject, consult your Alpine dealer.
	<ul> <li>Magazine ejection not possible.</li> <li>Press the magazine eject button. If the magazine does not eject, consult your Alpine dealer.</li> </ul>
	Magazine ejects without CD.     Press the eject button to activate the eject function. Insert an empty CD magazine into the 3D Shuttle to receive the disc left inside the unit.     If the CD cannot be removed, consult your Alpine dealer.

Indication	for MD Head Unit
Indication	Cause and Solution
NO DISC	No MD is inserted.     Insert an MD.
ERROR	<ul> <li>Dirty or scratched MD. Bad recording condition. A non recorded MD. Not a music MD.</li> <li>Press the O/C button and change the MD.</li> <li>The MD is inserted incorrectly.</li> <li>Press the O/C button and insert the MD correctly.</li> <li>Dew condensation.</li> <li>Wait a while.</li> <li>Mechanism error.</li> <li>Press the O/C button and eject the MD. If not ejecting, consult your Alpine dealer.</li> <li>When the error indication remains after ejecting, press the O/C button again. If the error indication still does not turn off after pressing the O/C button for a few times, consult your Alpine dealer.</li> </ul>
High-Temp	Protective circuit is activated due to high temperature.      The indicator will disappear when the temperature returns to within operation range.
(Blinking)	Reset or installation is proceeded with an MD left in the mechanism.     Malfunction in the mechanism.     Press the O/C button to open and close the movable display. (If the MD is in the mechanism, eject the MD once and reinsert it.)  Note: When the "ERROR" is displayed:     In case that the disc cannot be ejected by pressing the O/C (Open/Close) button, press the Reset button (refer to page 9) and press the O/C button again.

Indica	tion for CD Shuttle
Indication	Cause and Solution
High-Temp	<ul> <li>Protective circuit is activated due to high temperature.</li> <li>The indicator will disappear when the temperature returns to within operation range.</li> </ul>
	Malfunction in the CD Shuttle.     Consult your Alpine dealer.     Press the magazine eject button and pull out the magazine. Check the indication. Insert the magazine again. If the magazine cannot be pulled out, consult your Alpine dealer.
ERROR	<ul> <li>Magazine ejection not possible.</li> <li>Press the magazine eject button.         If the magazine does not eject, consult your Alpine dealer.     </li> </ul>
	A disc is left inside the CD Shuttle.     Press the EJECT button to activate the eject function. When the CD Shuttle finishes the eject function, insert an empty CD magazine into the CD Shuttle to receive the disc left inside the CD Shuttle.
No Magazine	No magazine is loaded into the CD Shuttle.     Insert a magazine.
NO DISC	No indicated disc.     Choose another disc.

# Specifications

FM TUNER SECTION	
Tuning Range	87.5 – 108.0 MHz
Mono Usable Sensitivity	9.3 dBf (0.8µV/75 ohms)
50 dB Quieting Sensitivity	13.5 dBf (1.3µV/75 ohms)
Alternate Channel Selectivity	80 dB
Signal-to-Noise Ratio	
Stereo Separation	
Capture Ratio	2.0 dB
AM TUNER SECTION	
Tuning Range	531 – 1,602 kHz
Usable Sensitivity	
CD SECTION	
Frequency Response	5 – 20,000 Hz (±1 dB)
Wow & Flutter (% WRMS)	Below measurable limits
Total Harmonic Distortion	0.008% (at 1 kHz)
Dynamic Range	
Signal-to-Noise Ratio	
Channel Separation	

# Specifications

MD SECTION
Signal-to-Noise Ratio
Channel Separation
Wow & Flutter (% WRMS)
EQUALIZER SECTION
Number of Bands7
Equalizer Centre Frequency Range
REMOTE CONTROL
Battery Type"AAA" sized dry battry
Battery Quantity
Dimensions (W x H x D)
Weight (without battery)
GENERAL
Power Requirement
Maximum Power Output*
Output Voltage
Maximum Pre-Output Voltage
Weight

# **Specifications**

CHASSIS SIZE	
Width	178mm (7")
Height	
Depth	
NOSEPIECE SIZE	
NOSEPIECE SIZE Width	170mm (6-3/4")

<sup>\*</sup> Under maximum operating voltage and input signal, into 4 ohms.

**Note:** Due to product improvement, specifications and design are subject to change without notice.